

## 1 Identification

### Product identifier

**Product name:** 2-Chloroacetophenone

**Stock number:** A10749

**CAS Number:**

532-27-4

**EC number:**

208-531-1

### Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

**Information Department:** Health, Safety and Environmental Department

#### Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

## 2 Hazard(s) identification

### Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 3 H331 Toxic if inhaled.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

**Hazards not otherwise classified** Lachrymator

### Label elements

**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

### Hazard pictograms



GHS06

### Signal word

**Danger**

### Hazard statements

H300 Fatal if swallowed.

H331 Toxic if inhaled.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

### Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves / eye protection / face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### WHMIS classification

D1A - Very toxic material causing immediate and serious toxic effects

D2B - Toxic material causing other toxic effects



### Classification system

**HMIS ratings (scale 0-4)**

**(Hazardous Materials Identification System)**

**HEALTH** 3 Health (acute effects) = 3

**FIRE** 1 Flammability = 1

**REACTIVITY** 1 Physical Hazard = 1

### Other hazards

### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3 Composition/information on ingredients

### Chemical characterization: Substances

#### CAS# Description:

532-27-4 2-Chloroacetophenone

**Concentration:** ≤100%

**Product name: 2-Chloroacetophenone**

**Identification number(s):**  
**EC number:** 208-531-1

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**4 First-aid measures**  
**Description of first aid measures**  
**General information**  
Immediately remove any clothing soiled by the product.  
Remove breathing apparatus only after contaminated clothing has been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.  
**After inhalation**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
**After skin contact**  
Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.  
**After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.  
**After swallowing** Do not induce vomiting; immediately call for medical help.  
**Information for doctor**  
**Most important symptoms and effects, both acute and delayed**  
Causes serious eye irritation.  
Toxic if inhaled.  
Fatal if swallowed.  
May cause an allergic skin reaction.  
This product is a lachrymator.  
**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Fire-fighting measures**  
**Extinguishing media**  
**Suitable extinguishing agents** Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
**Special hazards arising from the substance or mixture**  
If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide  
Hydrogen chloride (HCl)  
**Advice for firefighters**  
**Protective equipment:**  
Wear self-contained respirator.  
Wear fully protective impervious suit.

**6 Accidental release measures**  
**Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
**Environmental precautions:** Do not allow product to reach sewage system or any water course.  
**Methods and material for containment and cleaning up:**  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
**Prevention of secondary hazards:** No special measures required.  
**Reference to other sections**  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.  
**Protective Action Criteria for Chemicals**  
**PAC-1:** Substance is not listed.  
**PAC-2:** Substance is not listed.  
**PAC-3:** Substance is not listed.

**7 Handling and storage**  
**Handling**  
**Precautions for safe handling**  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
Open and handle container with care.  
**Information about protection against explosions and fires:** No information known.  
**Conditions for safe storage, including any incompatibilities**  
**Storage**  
**Requirements to be met by storerooms and receptacles:** No special requirements.  
**Information about storage in one common storage facility:**  
Store away from strong bases.  
Store away from oxidizing agents.  
Store away from alcohols.  
Store away from amines.  
**Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
**Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**  
**Additional information about design of technical systems:**  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.  
**Control parameters**

Components with limit values that require monitoring at the workplace:	
532-27-4 2-Chloroacetophenone (100.0%)	
PEL (USA)	Long-term value: 0.3 mg/m³, 0.05 ppm
REL (USA)	Long-term value: 0.3 mg/m³, 0.05 ppm
TLV (USA)	Long-term value: 0.32 mg/m³, 0.05 ppm

**Product name: 2-Chloroacetophenone**

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EL (Canada) Long-term value: 0.05 ppm  
S  
EV (Canada) Long-term value: 0.32 mg/m<sup>3</sup>, 0.05 ppm

**Additional information:** No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use self-contained respiratory protective device in emergency situations.

**Recommended filter device for short term use:**

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Material of gloves** Nitrile rubber, NBR

**Penetration time of glove material (in minutes)** 480

**Glove thickness:** 0.11 mm

**Eye protection:** Safety glasses with side shields / NIOSH (US) or EN 166(EU)

**Body protection:** Protective work clothing.

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:** Solid

**Odor:** Irritating

**Odor threshold:** Not determined.

**pH-value:** Not applicable.

**Change in condition**

**Melting point/Melting range:** 52-56 °C (126-133 °F)

**Boiling point/Boiling range:** 243-244 °C (469-471 °F)

**Sublimation temperature / start:** Not determined

**Flash point:** 118 °C (244 °F)

**Flammability (solid, gaseous)** Not determined.

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Auto igniting:** Not determined.

**Danger of explosion:** Not determined.

**Explosion limits:**

**Lower:** Not determined

**Upper:** Not determined

**Vapor pressure at 20 °C (68 °F):** 0.0053 hPa

**Density at 20 °C (68 °F):** 1.324 g/cm<sup>3</sup> (11.049 lbs/gal)

**Relative density** Not determined.

**Vapor density** Not applicable.

**Evaporation rate** Not applicable.

**Solubility in / Miscibility with**

**Water:** Insoluble

**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**

**dynamic:** Not applicable.

**kinematic:** Not applicable.

**Other information** No further relevant information available.

**10 Stability and reactivity**

**Reactivity** No information known.

**Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions** Reacts with strong oxidizing agents

**Conditions to avoid** No further relevant information available.

**Incompatible materials:**

Bases

Oxidizing agents

Alcohols

Amines

**Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Hydrogen chloride (HCl)

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity:**

Fatal if swallowed.

Toxic if inhaled.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.




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USA

Product name: 2-Chloroacetophenone

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LD/LC50 values that are relevant for classification:	
Oral	LD50 50 mg/kg (rat)
Skin irritation or corrosion: May cause irritation	
Eye irritation or corrosion:	
This product is a lachrymator.	
Lachrymator. Produces tears and temporary eye irritation.	
Sensitization: May cause an allergic skin reaction.	
Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.	
Carcinogenicity:	
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.	
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.	
Reproductive toxicity: No effects known.	
Specific target organ system toxicity - repeated exposure: No effects known.	
Specific target organ system toxicity - single exposure: May cause respiratory irritation.	
Aspiration hazard: No effects known.	
Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.	
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.	

12 Ecological information	
Toxicity	
Aquatic toxicity: No further relevant information available.	
Persistence and degradability: No further relevant information available.	
Bioaccumulative potential: No further relevant information available.	
Mobility in soil: No further relevant information available.	
Additional ecological information:	
General notes:	
Do not allow product to reach ground water, water course or sewage system.	
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.	
Avoid transfer into the environment.	
Results of PBT and vPvB assessment	
PBT: Not applicable.	
vPvB: Not applicable.	
Other adverse effects: No further relevant information available.	

13 Disposal considerations	
Waste treatment methods	
Recommendation: Consult state, local or national regulations to ensure proper disposal.	
Uncleaned packagings:	
Recommendation: Disposal must be made according to official regulations.	

14 Transport information	
UN-Number	
DOT, IMDG, IATA	UN1697
UN proper shipping name	
DOT	Chloroacetophenone, solid
ADR	1697 Chloroacetophenone, solid
IMDG, IATA	CHLOROACETOPHENONE, SOLID
Transport hazard class(es)	
DOT	
	
Class	6.1 Toxic substances
Label	6.1
ADR	
	
Class	6.1 (T2) Toxic substances
Label	6.1
IMDG, IATA	
	
Class	6.1 Toxic substances
Label	6.1
Packing group	
DOT, ADR, IMDG, IATA	II
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Toxic substances
EMS Number:	F-A, S-A
Stowage Category	D
Stowage Code	SW1 Protected from sources of heat.
	SW2 Clear of living quarters.
Handling Code	H2 Keep as cool as reasonably practicable
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

<b>Product name: 2-Chloroacetophenone</b>	
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<b>Transport/Additional information:</b>	
<b>DOT</b>	
<b>Quantity limitations</b>	On passenger aircraft/rail: Forbidden On cargo aircraft only: 100 kg 100 lbs, 45.4 kg
<b>Hazardous substance:</b>	No
<b>Marine Pollutant (DOT):</b>	No
<b>IMDG</b>	
<b>Limited quantities (LQ)</b>	0
<b>Excepted quantities (EQ)</b>	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
<b>UN "Model Regulation":</b>	UN 1697 CHLOROACETOPHENONE, SOLID, 6.1, II

**15 Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)  
**Hazard pictograms**



GHS06

**Signal word** Danger

**Hazard statements**

H300 Fatal if swallowed.

H331 Toxic if inhaled.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

**Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves / eye protection / face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

This product is subject to ITAR, International Traffic in Arms Regulations. All U.S. Department of State regulations must be followed. (See Code of Federal Regulations, Title 22)

**SARA Section 313 (specific toxic chemical listings)**

532-27-4 | 2-Chloroacetophenone

**California Proposition 65**

**Prop 65 - Chemicals known to cause cancer** Substance is not listed.

**Prop 65 - Developmental toxicity** Substance is not listed.

**Prop 65 - Developmental toxicity, female** Substance is not listed.

**Prop 65 - Developmental toxicity, male** Substance is not listed.

**Information about limitation of use:** For use only by technically qualified individuals.

**Other regulations, limitations and prohibitive regulations**

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.

**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Global Marketing Department

**Date of preparation/Revision:** Print date, revision date and version number are in the header of each page.

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 3: Acute toxicity – Category 3

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin Sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3